

## What's In Your Medicine Cabinet and Is It Making Your Drug Test Positive?

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Many prescription drugs and non-prescription drugs can cause a positive drug test. It is extremely important for a donor to be very specific when providing any type of specimen (urine, hair or saliva) for a drug test as to what medications they are taking, whether they are prescribed or over the counter (OTC).

The NIDA-5 panel tests for THC, amphetamines, cocaine, opiates and PCP. Many prescription and non-prescription medicines can produce a positive result for amphetamines, opiates, THC and even cocaine. In this section, we will discuss the regulated drug tests and some of the medicines that can initiate a positive test result. This list, far from being exhaustive, is a sampling of the drugs.

### Amphetamines

Amphetamines are prescribed for a number of conditions some of which include: ADHD, Narcolepsy, Appetite Suppression, Fatigue, etc. Amphetamines are a central nervous system stimulant that can cause people to be dizzy, light-headed, restless, have blurred vision and other symptoms that can impair a person's performance when operating any safety sensitive equipment or performing other tasks that require careful attention to detail. Many of the amphetamines prescribed are given to people to help them to lose weight. Some of the most common medications are Fastin, Adipex, Meridia and Desoxyn and typically promise the person using them appetite suppression. There are three preparations that are no longer available in the United States, which can still be ordered over the internet called Pondimin, Redux and FenPhen that also cause a positive amphetamine test.

Perhaps the most widely prescribed use of amphetamines is for Attention Deficit Hyperactivity Disorder (ADHD), which is a neurobehavioral developmental disorder characterized by inattention, hyperactivity, poor impulse control, forgetfulness and distractibility. While most people diagnosed with ADHD are under the age of 19, many adults are often diagnosed

and therefore require ADHD medication. The most commonly prescribed ADHD medications are Ritalin, Metadate, Focalin, Concerta, Dextrostat, Dexedrene, Adderall and a transdermal patch called Daytrana. These medications are tremendously effective when used properly; however many of them will cause a positive amphetamine drug screen.

The third category of disorders where amphetamines would be prescribed is narcolepsy. Narcolepsy is a neurological condition characterized by excessive daytime sleepiness. Many of the same medications that are used to treat ADHD and obesity are also used to treat narcolepsy with the same side effects and the same positive drug test results.

### THC

When we think of THC, we automatically think of smoking marijuana and may falsely believe that smoking marijuana is the only way to have a positive THC drug test. There is one prescription medication approved in the United States that will cause a positive THC result. The medicine is known as Dronabinol (Marinol) and contains delta-9-tetrahydrocannabinol (THC). This medication has been approved in the United States for only two purposes: to stimulate appetite and prevent weight loss in patients with a confirmed diagnosis of AIDS and to treat nausea and vomiting associated with chemotherapy. Some patients have used THC in the past by court order to treat glaucoma. There are no other prescription or non-prescription medications that contain cannabinoids or any other substance that might be identified as or metabolized to THC.

### Opiates

This class of drug is probably most widely prescribed when it comes to medicines that will cause a positive drug test. The prevalence of prescription pain medication usage is reaching epidemic proportions. Many people are being prescribed opiate pain relievers for conditions that don't generally require such strong medi-

cation when Ibuprofen or Acetaminophen might work just as well. The incidence of opiate addiction due to such pain relievers as Oxycodone, Hydrocodone, Codeine, Morphine, Fentanyl, etc. is escalating daily. The fact that these drugs are prescribed does not guarantee that the individual taking them is not impaired.

Opiates are extremely effective drugs when they are used for the treatment of severe short-term (acute) pain. Because these drugs are so highly addictive, most health care professionals (other than those who specialize in pain management) should only prescribe them for short periods of time, one to two weeks.

Although we typically think of pain medication as the only thing that will cause a positive opiate test, many cough medicines will also cause a positive opiate drug test. For instance, anything that a health care professional prescribes for a cough will typically have some Codeine in it. Things like Robitussin A-C, Robitussin DAC, Actifed C, etc., it is a safe bet that if the cough medicine name contains the letter C (as in the above examples) that the preparation contains Codeine, but this is not always the case so it is always advisable to check with a health care professional.

Some examples of pain relievers that can be found in medicine cabinets all around the world that will cause positive opiate tests are: Acetaminophen with Codeine (Tylenol #3), Acetaminophen with Hydrocodone (Norco, Vicodin) Acetaminophen with Oxycodone (Percocet, Endocet) Acetaminophen with Propoxyphene, Aspirin with Oxycodone (Percodan), Codeine Sulfate, Fentanyl (Actiq), Morphine (MS Contin, Oramorph SR), Oxycodone (Oxycontin). In addition, there are certain medications used for headaches such as, Butalbital with Acetaminophen and Codeine (Fioricet) or Butalbital with Aspirin and Codeine (Fioricet) that will also cause a positive opiate drug test.

There have been cases reported where the consumption of poppy seeds has caused a positive opiate test. Several years ago, The Substance Abuse and

Mental Health Services Administration (SAMHSA) raised the cutoff level of opiate levels from 300 ng/ml to 2000 ng/ml with the thought that someone would get physically ill before consuming enough poppy seeds to test positive at this increased level. However, there have still been some cases where people have tested positive even at the higher cut-off level after consuming several food items that had high poppy seed content (such as poppy seed muffins, bagels and different types of Italian pastries).

### Cocaine

A solution is sometimes used to treat cancer patients called Brompton's Mixture, which is a combination of Morphine and Cocaine. While not widely used, it will produce a positive cocaine test.

Over the counter medications (OTC) are medicines that can be purchased without a prescription in either a pharmacy or grocery store. Many of these types of medications, specifically the cough and cold preparations can cause positive test results. For instance, many of the medications that contain Pseudoephedrine (which in most states in this country is now kept behind the counter and purchasers must sign for it) can cause positive amphetamine results. Dextromethorphan a common ingredient in cough suppressants known as an antitussive can cross react with PCP and cause a false positive on a drug test for PCP. Vicks Inhalers can also produce a positive drug test for methamphetamine. There are also certain weight loss preparations sold without a prescription that can give a positive result for amphetamines. These false-positives can be resolved by performing GC/MS confirmation.

The above statement refers to regulated drug tests where there is an initial immunoassay screen with a confirmation on all positives by Gas Chromatography and Mass Spectrometry (GC/MS). Non-regulated drug testing can cause even more problems for individuals since many employers who require drug testing only want to pay for the initial immunoassay screen without the more sensitive and sophisticated confirmation of GC/MS. Since many drugs can create a false positive drug test on immunoassay screens and a negative on GC/MS, individuals have lost jobs, gone to jail, had children taken away from them and other dire consequences because they didn't realize the medication

they were taking, whether prescribed or not, could cause a positive drug test.

The NIDA-5 as discussed above tests for amphetamines, cocaine, opiates, PCP and THC. However, there are many people in safety sensitive jobs that are being prescribed other types of medication that can cause abuse and impairment, but are not included in the NIDA-5. The main categories are benzodiazepines and barbiturates.

### Benzodiazepines

Benzodiazepine are a class of psychoactive drugs that are considered tranquilizers, which have sedative, anxiolytic, anticonvulsant and muscle relaxant properties. This class of drugs is often prescribed for anxiety and has the potential for abuse and impairment of functioning. These drugs typically work by depressing the central nervous system thereby causing a sedating effect. They are meant to be used for short-term treatment; however, many people take them on a daily basis for long periods. Some of the most popular benzodiazepines are Clonazepam (Klonopin), Clorazepate (Traxene), Chlordiazepoxide (Librium), Diazepam (Valium), Flurazepam (Ativan), Oxazepam (Serax), Temazepam (Restoril), Alprazolam (Xanax), Flunitrazepam (Rohypnol, also known as the date rape drug) and Triazolam (Halcion).

### Barbiturates

The next class of drugs that are not tested for in the NIDA 5 are barbiturates. Barbiturates act as central nervous system depressants and are derivatives of barbituric acid. Barbiturates like Secobarbital (Seconal) and Phenobarbital were long used as anxiolytics and hypnotics. They have largely been replaced by benzodiazepines because barbiturates have a much higher potential for abuse and lethal overdoses.

Today, barbiturates are widely used for seizure disorders and in combination with other drugs or headaches and for gastrointestinal problems such as: anti-spasmodics. Barbiturates can lead to physical and psychological dependence. Psychological dependence can occur quite quickly and with continued use, leads to physical dependence. There is a high incidence of overdose with barbiturates because tolerance develops with their long-term use and individuals require higher doses to get the desired effect.

Some of the most common barbiturates that can be found in homes are Phenobarbital (principally used for seizure disorders) and Secobarbital (used to treat insomnia). In addition, there are several preparations used for headaches that contain Butalbital that is also a barbiturate, they include Fiorinal, Fioricet, Bupap, and Phrenilin. These medications are a combination of either Aspirin or Acetaminophen with Butalbital and Caffeine. Fiorinal and Fioricet also contain Codeine which can produce positives for barbiturates and opiates. There is also a drug called Donnatal Extentabs, which is prescribed for gastrointestinal disorders such as irritable bowel syndrome and spastic colon. This medicine has approximately 50 mg of Phenobarbital as one of its ingredients and can cause a positive drug screen for barbiturates as can Primidone (Mysoline) which is used as an anticonvulsant medication and metabolizes to Phenobarbital.

Employers and others who rely on drug testing results whether regulated or non-regulated have continually wrestled with the dilemma of what to do when a drug test comes back positive for a medication that the donor has been prescribed, but is known to cause impairment. In the case of regulated drug testing, the decision rests on the shoulders of the MRO to determine fitness for duty.

The other difficulty in regulated drug testing is the problem of not testing for benzodiazepines and barbiturates, which can cause the same degree of impairment as the drugs in the NIDA-5. We then must ask ourselves, "Do we want a school bus driver transporting our children or a pilot flying us in an airplane even if the opiate they are taking has been prescribed?" Moreover, what about that same bus driver or airline pilot that is taking a prescribed benzodiazepine or barbiturate that is not part of the standard NIDA-5; do we want him or her transporting us or our children?

In conclusion, drug testing and its interpretation is a very complex procedure that requires precision on the part of the collector, laboratory and MRO or other professional reviewing the results. It is imperative that a donor be very specific about all of the drugs they are taking, whether prescribed or over the counter no matter how benign they may think it is.